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THE INSECT PEST SURVEY BULLETIN

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CUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR AUGUST, 1924

In this number of the Survey Bulletin is a summary of the Hessian fly summer survey from New York State. This indicates a general reduction of infestation throughout the wheat growing section of the State, the infestation in 1923 averaging 8.5 per cent, while this year it averages but 6.4 per cent. In Ohio the infestation has increased in the northeastern counties, in some cases running as high as 24 per cent. Indications of rather serious fly conditions are also reported from Indiana, Illinois, North Dakota and Kansas.

The chinch bug situation remains about the same as last month throughout the greater part of the chinch bug belt.

The corn earworm is again appearing in New England. The last outbreak in this region occurred two years ago.

The fall armyworm has already appeared in Kentucky and is doing considerable damage. This early appearance may be the fore-runner of a more general outbreak later in the season.

The western corn rootworm is reported as seriously infesting corn in Missouri and Kansas. The beetles are now cutting the silk.

The Conchuela (Chlorochroa ligata Say) is reported as doing immense damage to the seed crop of alfalfa in the Fort Stockton and Pecos sections of Texas.

Late in July and early in August the green apple aphid was reported as becoming seriously abundant throughout the apple-growing section of New York State.

The variety of the codling moth known as Carpocapsa pomonella simpsonii Busck was reared for the first time in the Yakima region of Washington State. Side worm injury by the codling moth is reported as more serious than usual in New England and eastern New York, while in western New York the damage is not as serious as last year.

The apple and thorn skeletonizer is now generally distributed in New England and New York State. In Massachusetts it was serious enough to occasion a special spray; in New York State, as a whole, the insect was less serious than usual.

The painted lady butterfly was reported during the last week in July and the first week in August in unusual numbers in Wisconsin and South Dakota. This is practically the termination of the unusual development of this insect throughout the entire western and central United States, and Mexico.

During the past month the potato leafhopper has been rapidly increasing in Indiana. Some fields, in the west-central part of the State, have been killed.

The Mexican bean beetle by August 25 had extended its range eastward in Virginia to Craig and Carroll Counties, being now nearly half way across the State. In West Virginia it has advanced from the southwestern border of the State eastward to Marshall, Tyler, and Wetzel Counties, covering about three-quarters of the State. In Indiana it is only found along the southeastern border of the State in Floyd, Clark, and Jefferson Counties. In Kentucky it extends over practically the entire eastern two-thirds of the State. In Ohio about the southern three-quarters of the State is infested, infestations ranging as far west as the southwestern corner of the State in Butler and Hamilton Counties, and northward to Hancock, Wayne, and Tuscarawas Counties. It has just invaded southwestern Pennsylvania, being found in Washington and Green Counties.

The cotton leafworm during the third week in August appeared at several points in Arkansas, and Madison Parish, La., while during the second week of the month it was reported from Alabama. The insect seems to be unusually abundant in Arkansas.

The boll weevil as a whole does not seem to be as destructive as during 1923. The boll worm, on the other hand, is reported as generally more destructive in California and Georgia.

In this number of the Bulletin is published a summary of the past ten years, observations on the abundance of the sugar cane borer in Louisiana.

Bagworm is reported as generally on the increase in western Missouri and eastern Kansas, and is also reported as doing damage in parts of Ohio, and in the Ohio River Basin the catalpa sphinx is causing considerable trouble.

The elm leaf-beetle is worse than it has been for several years in western Connecticut and southeastern New York. It is also reported from Michigan, and is reported for the first time from the State of California, where it has appeared in the Fresno district.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR AUGUST, 1924

The grasshopper situation in the Nicola Valley, B. C., where there is an outbreak of the roadside grasshopper, Cannula pellucida Scudder, and the lesser migratory grasshopper, Melanoplus atlantis Riley, is expected to assume more serious proportions in 1925. In the Thompson River Valley, B. C., from Kamloops to Chase, there is a very heavy infestation of Melanoplus atlantis Riley.

Grasshoppers are causing little trouble in Manitoba and southern Alberta this year.

The eye-spotted bud-moth, Spilonota ocellana D. & S., and the green bud moth, Argyroploce variegana Hbn., have been abundant to an unusual degree in the Annapolis Valley, N. S.

The fall cankerworm is gradually increasing in numbers throughout the Annapolis Valley, N. S., and another outbreak is about due.

The spruce sawfly, Diprion abietis Harris, is unusually prevalent in southern Manitoba.

The larch sawfly, Lygaeonematus erichsoni Hartig, has caused serious damage throughout wide areas in New Brunswick.

Green fruit worms of different species have been more abundant in the Annapolis Valley, N. S., this season than for several years previously, and considerable damage to fruit has resulted.

Injury by blister beetles has been reported from nearly all parts of Manitoba, the plants chiefly affected being Caragara hedges, potatoes, beans and peas.

The green apple bug, Lycus communis Knight, has been gradually increasing in numbers in the Annapolis Valley, N. S., since 1919, when it was subject to an epidemic of disease. The increase has been most marked during the past year.

The rose curculio, Rhynchites bicolor Fab., has been very injurious to roses throughout Manitoba during the early summer, fully half the blossoms being destroyed by them.

The false chinch bug, Nysius ericae Schill, became a very serious pest in the drier sections of Alberta during July, injury being done to wheat, radishes, cabbages, raspberries, strawberries and various flowers.

C E R E A L A N D F O R A G E - C R O P I N S E C T S

GENERAL FEEDERS

GRASSHOPPERS (Acridiidae)

Wisconsin

H. F. Wilson (August 5): We have had a serious outbreak of grasshoppers in the northern part of the State, especially in Door County. Cannula pellucida Scudd. was the most important species, although two or three other species were present.

Arkansas

W. J. Baerg (August 4): Melanoplus differentialis Thoms. is causing noticeable injury to corn in Carroll County. Most of the grasshoppers are in the last nymphal instar; a few have reached the adult stage.

Nebraska

M. H. Swenk (July 10-August 1): Grasshoppers (Melanoplus bivittatus Say, etc.) developed in injurious numbers in portions of the North Platte Valley, in Scottsbluff County especially, in the White River Valley of Dawes County, and in scattered localities east to Custer and Nuckolls Counties. These pests are, however, as stated in my last report, present in Nebraska this year in subnormal numbers.

Kansas

J. W. McColloch (August 20): Melanoplus atlantis Riley is the predominating species. The second brood began hatching about August 1. Most of the injury thus far reported has been to alfalfa. Watermelons were being destroyed in Harper County, and at Burden the hoppers were reported stripping the leaves and bark from a young apple orchard.

Utah

Geo. F. Knowlton (July 31): Grasshoppers are not as severe in this State as at this date a year ago. A few sections are having to use poison bait.

WHITE GRUBS (Phyllophaga spp.)

Illinois

W. P. Flint (August 26): Reports of white grub damage have been received from many of the central and northern counties. Much damage was reported where corn has followed corn. Apparently the eggs were in many cases laid in corn ground during 1923.

Nebraska

M. H. Swenk (July 10-August 1): Next to the chinch bug, the most complained-of insect pest during the period covered by this report has been white grubs. The reports tell of damage to bluegrass lawns, strawberry patches and flower gardens. Practically the whole of the eastern half of the State is more or less affected, owing to an abundance of May beetles flying in the spring of 1923, but the most serious reports have been received from Knox, Garfield, Lancaster, Clay, and Furnas Counties.

Utah

Geo. F. Knowlton (August 8): White grubs are doing considerable damage in some sugar beet fields in Cache County. All beets were killed in some sections of certain fields in Benson Ward.

A BEETLE (Ochrosidia (Cyclocephala) sp.)

Illinois

W. P. Flint (August 26): Adults appeared in large numbers about lights during the first part of August. At single street lights from 600 to as high as 1,000 beetles were observed by actual count. The flight continued from July 26 to August 4. A few beetles were observed about lights up to August 22. No feeding by the adults was seen, although large trees projected close to street lights. The flight seemed to be confined to east-central Illinois.

WIREWORMS (Elateridae)

Wisconsin

H. F. Wilson (August 5): Wireworms were also bad, but we did not get a determination as to the species.

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

New York

C. R. Crosby: The Hessian fly survey for the current year covered 16 counties, 8 more than were covered last year. The average infestation for the region covered last year was 8.5 per cent. This year the same region had an infestation of 6.3 per cent, while the average infestation for the 16 counties where counts were made amounted to 5.9 per cent, showing a decided decrease in infestation.

The report by counties is as follows:

Cayuga County	-	5.0 per cent	Ontario County	-	3.5 per cent
Chemung "	-	2.0 "	Orleans "	-	9.0 "
Frie "	-	3.4 "	Oswego "	-	0.0 "
Genesee "	-	9.4 "	Schuyler "	-	14.0 "
Livingston "	-	4.0 "	Tompkins "	-	4.0 "
Monroe "	-	3.2 "	Yates "	-	10.0 "
Niagara "	-	8.0 "	Wayne "	-	4.6 "
Onondaga "	-	5.0 "	Wyoming "	-	10.4 "

Ohio T. H. Parks (July 28): Hessian fly infestation in Ohio has increased from $4\frac{1}{2}$ to $11\frac{1}{2}$ per cent (infestation of straws) in 31 counties examined. Infestations of 15 to 24 per cent exist in northeastern Ohio counties. Northwestern counties now have the least fly infestation in the State.

Indiana C. R. Cleveland (August 18): Conditions thus far indicate emergence of flies on approximately normal dates. Observations continue to indicate a great abundance in early-sown fields this fall.

Illinois W. P. Flint (August 26): A state-wide survey covering 34 of the largest wheat-growing counties in the State has shown a state average of 2.3 living fly per single foot of drill row, and the same average for joint worm. The highest average number of fly per foot of drill row occurs in the northwestern part of the State. In Bureau County 4.7 living fly per foot of drill row was found. Fly is less abundant in the southern half of the State, the lowest county showing .2 of living fly per foot of drill row. Development of fly for the season appears to be about normal, apparently there will be no supplementary fall brood of fly this year; fly was present in every county in which this survey was conducted, and in 262 out of 291 fields examined.

Wisconsin H. F. Wilson (August 5): The Hessian fly has been somewhat bad in Door County.

North Dakota and Montana C. N. Ainslie (August 20): Wheat in western North Dakota and eastern Montana is heavily infested with the fly, although during the present season the injury is not apparent, owing to rainfall which, to a certain extent, has enabled injured plants to rally. Fly damage is concurrent with much root rot or scab. In spite of all this the wheat yield will be fair. The fly may cause trouble next year.

Kansas J. W. McColloch (August 18): There is still a general infestation of the Hessian fly in Kansas. Plenty of rain during the last month has resulted in lots of volunteer wheat and has caused some emergence of fly. Eggs were found on volunteer wheat during the last week of July.

GREATER WHEAT-STEM MAGGOT (Meromyza americana Fitch)

North Dakota C. N. Ainslie (August 21): This fly is, as usual, placing its egg freely on blades of the various Agropyrons (A. smithii being the species perhaps most commonly selected). Adult flies can be swept almost anywhere from these grasses. These flies have years ago been observed ovipositing on Agropyron blades, almost invariably placing its solitary egg on the top of the leaf. In North Dakota the egg is deposited near the base of the leaf. Wheat is attacked slightly this year.

WHEAT JOINTWORM (Harmolita tritici Fitch)

North Carolina Bureau of Entomology Monthly Letter No. 123 (July): W. J. Phillips visited Greensboro July 4 to investigate an infestation of the wheat jointworm and found a very abundant occurrence of this insect in that vicinity. An infestation of 100 per cent was found in one field.

Illinois W. P. Flint (August 26): Wheat jointworm is very abundant in the west-central part of the State, in some counties averaging over 14 per foot of drill row.

WHEAT STRAWWORM (Harmolita grandis Riley)

Nebraska M. H. Swenk (July 10-August 1): The wheat crop recently harvested was injured by the wheat strawworm in the vicinity of Marion, Red-willow County, and the vicinity of Benkelman, Dundy County, and possibly in other localities in the southwestern corner of the State. Elsewhere in the State this injury was not observed.

Kansas J. W. McColloch (August 16): A survey in the northwestern part of the State shows a heavy infestation remaining in the stubble. In some fields every straw contains at least one larva. The use of headers and combines in harvesting leaves most of the insects in the field. No definite figures are yet available on the loss occasioned by this insect. The superintendent of the Hays Experiment Station states that the yield was reduced 50 per cent in some fields.

WHEAT SAWFLY BORER (Cephus pygmaeus L.)

New York J. E. Connolly (August 2): Rather heavy infestation noted in Ontario County.

COMMON SMUT BEETLE (Phalacrus politus Melsh.)

Nebraska M. H. Swenk (July 10-August 1): During the second week in July an abundance of the smut beetle was reported from Dawson County.

CORN

CHINCH BUG (Blissus leucopterus Say)

Illinois

W. P. Flint (August 26): Heavy rains during the latter part of July and the first of August have reduced this insect to a point where practically no injury to corn will occur in Illinois during the present season. There are less bugs at this time than at any time since the summer of 1911.

South Dakota

H. C. Severin (July 30): This pest has become a negligible factor in this State except in isolated places here and there in Charles Mix, Bon Homme, and Douglas Counties.

Nebraska

M. H. Swenk (July 10-August 1): By far the most injurious insect during the period covered by this report has been the chinch bug. The migration from the wheat and barley fields into the corn, beginning from June 25 to July 7, continued until about the middle of July, when it was practically over. The bugs were migrating heavily all through the infested area from July 10 to 15. The infested area continued to be as outlined in my last report of July 10, except that the Furnas and Gosper County infestations proved to extend east into western Phelps County and northeast even to southwestern Buffalo County, in the vicinity of Elm Creek. The infestation in southern (not northern) as stated in error in my report of July 10) Saline County proved to be serious in the vicinity of Western. As thus revised the infested area includes Richardson, Nemaha, Pawnee, Johnson, southwestern Otoe, southeastern Lancaster, Gage, Jefferson, southern Saline, Thayer, Nuckolls, Webster, Franklin, Harlan, Furnas, Gosper, western Phelps, and southwestern Buffalo Counties. Complaint of injury has ceased at the time of preparing this report. No serious chinch bug outbreak has as yet developed in northeastern Nebraska, where the pest was injurious last year, only a few reports of an abundance of the pest having been received, and these all from Knox County.

Kansas

J. W. McColloch (August 13): Chinch bugs are abundant in the corn and sorghum fields, although there are few reports of serious damage. A farmer at Lenora reports the loss of 25 acres of milo. Plenty of rain during the last month has been favorable for the development of the fungus.

Texas

F. L. Thomas (August 12): Nymphs and adults very abundant upon agronomy test plat to which the insects had migrated from corn.

CORN EARWORM (Heliothis obsoleta Fab.)

Massachusetts

A. I. Bourne (August 20): On August 4 and the succeeding few days we had complaints of the corn earworm on sweet corn. These were the first complaints received since the outbreak of two years ago. Specimens sent in varied considerably in extent of development, but were approximately one-third to one-half grown. One or two fields in this immediate vicinity were reported to be quite heavily attacked. As yet, however, we have had no complaints from other points in the State.

Georgia J. D. More (June 22): Reported from Calhoun as attacking vetch, corn, and cotton.

Florida F. S. Chamberlin (August 21): Several fields of running beans near Quincy are being seriously damaged by corn earworm larvae, which confine their attacks mainly to the pods. Field corn at this time is hardening and is unsuitable as food for this pest.

STALK BORER (Papaipema nebris nitela Guen.)

Massachusetts A. I. Bourne (August 20): We have been finding from every lot of material of Papaipema nitela which has been collected in this immediate vicinity, or has been sent in to us from other parts of the State, that the larvae are parasitized apparently to an unusually large percentage.

Nebraska M. H. Swenk (July 10-August 1): The stalk borer continued to be reported as injurious from July 10 to 21. In a few cornfields the injury was serious. Two Cass County fields near the Otoe County line were thinned out quite perceptibly, a couple of fields in Washington County were badly injured, and a Hamilton County cornfield was also thinned out quite seriously through the activities of this pest. Other reports were of injury to tomato plants and flowers.

ARMYWORM (Cirphis unipuncta Haw.)

Florida F. S. Chamberlin (August 2): A slight infestation of armyworms was observed upon bean foliage on August 2.

Wisconsin H. F. Wilson (August 5): We have had a serious outbreak of armyworms in the southern part of the State.

FALL ARMYWORM (Laphyza frugiperda S. & A.)

Kentucky H. Garman (August 23): Fall armyworm has already appeared in Kentucky and is doing exceptional injury to corn in Christian County. I have had a number of specimens sent to me recently by a correspondent who is very anxious about checking the mischief. This insect generally appears here late in the season and only occasionally attracts attention because of serious mischief. Generally it works on rye and other plants of the same family.

Mississippi H. W. Allen (August 23): Two heavy infestations of the southern grass worm have appeared at A. & M. College within the past week. In one, a meadow of Johnson grass of about 40 acres, the defoliation ranges from severe to complete. The worms are now beginning to develop the armyworm habit. No damage to corn has as yet been noted.

CORN-LEAF APHID (Aphis maidis Fitch)

Mississippi H. W. Allen (August 18): The cornleaf aphid is now abundant in the tassel end of late corn, apparently increasing to a considerable degree the stunting resulting from long continued dry weather.

TWELVE-SPOTTED CUCUMBER-BEETLE (Diabrotica 12-punctata Fab.)

Indiana C. R. Cleveland (August 18): Specimens of well-grown corn with nearly full-grown larvae of this species were received from Frankfort and Fowler the second week in August, with the statement that many plants were dying. Injury by the worms, however, while apparent, would not seem to have been severe enough to cause the death of the plants. A combination of this injury with several weeks of extremely dry, hot weather was possibly the cause of the severe injury.

Illinois W. P. Flint (August 26): Damage by this insect has been very severe and much more general than usual. In some fields 90 per cent of the corn showed fallen stalks where counts were taken. In a number of fields in the central part of the State this insect will cut the yield from 5 to in exceptional cases as much as 50 per cent.

WESTERN CORN ROOTWORM (Diabrotica longicornis Say)

Missouri L. Haseman (July 28): Worms vary from one-half to full grown. They are worse than in an average year. Whole fields damaged seriously. (August 22): This worm is causing quite a bit of trouble in some sections of the country.

Kansas J. W. McColloch (August 16): The adults are reported very abundant in cornfields about Irving. They are cutting off the silks, thus preventing fertilization. Several fields show the work of the larvae earlier in the season. All cases of larval injury are in fields which have been in corn for several years.

A COLASPID BEETLE (Colaspis favosa Say)

South Dakota H. C. Severin (July 30): Adults feeding on corn, damage being very severe.

EUROPEAN CORN BORER (Pyrausta nubilalis Huebn.)

New York K. E. Paine (July 12): This insect is now laying its eggs, and so far gives promise of being considerably more numerous than last year in Chautauqua County.

PALE-STRIPED FLEA-BEETLE (Systema taeniata var. blanda Melsh.)

Wisconsin

H. F. Wilson (August 5): This flea-beetle caused a great deal of damage to the roots of corn early in the season. Corn planted in fields which were last year in weeds suffered serious damage. A number of larvae were found feeding on the roots of corn, and from these we were able to breed the adult flea-beetle.

ANGULATED FROGCHOPPER (Lepyronia quadrangularis Say)

Arkansas

W. J. Baerg (August 4): Lepyronia quadrangularis is causing appreciable injury to corn in Carroll County over an area of several acres. The spittle insects were found in aggregations of 20 to 50 on the undersides of the leaves, in the axils and on the tassels; on a single plant, in some instances, there were more than 100 insects. The corn is located near a field of timothy that had been cut about two weeks ago. From here the spittle insects migrated into the corn.

ALFALFA AND CLOVER

GARDEN WEBWORM (Loxostege similalis Guen.)

Nebraska

M. H. Swenk (July 10-August 1): A local outbreak of the second brood of the alfalfa or garden webworm occurred in Richardson County in the vicinity of Dawson about the middle of July.

ALFALFA NEMATODE (Tylenchus dipsaci Kuhn)

Utah

Geo. F. Knowlton (August 8): The alfalfa nematode has been found doing damage in Salt Lake County and is reported from Uintah Basin. This threatens to be a serious problem in the dairy industry.

CONCHUELA (Chlorochroa ligata Say)

Texas

F. L. Thomas (July 1): Letter received from Fort Stockton states "Doing immense damage to the seed crop of alfalfa in this section."

COWPEAS

COWPEA CURCULIO (Chalcodermus aeneus Boh.)

Georgia

J. B. Wright (July 14): Reported from Stilson.

LESSER CORN STALK-BORER (Elasmopalpus lignosellus Zell.)

Mississippi

H. W. Allen (August 13): The stand of cowpeas in several fields in the locality of A. & M. College has been considerably reduced by the lesser corn stalk-borer tunneling in and killing the young seedling plants.

GRASS

A SCALE INSECT (Eriococcus sp.?)

Indiana

C. R. Cleveland (August 19): Specimens of a scale, enclosed in an elongate oval white felt-like sac on pasture grass and red top, have been received from Dale and Newburg. The sacs contain the female and masses of eggs. Fields at these points are reported as being heavily infested. The scale has not been identified but appears to be close to the genus Eriococcus.

F R U I T I N S E C T S

APPLE

GREEN APPLE APHID (Aphis pomii DeG.)

New York

C. R. Crosby and assistants: The latter half of July and the early part of August have brought considerable increase in the green apple aphid throughout the apple growing sections of the State, both in the Hudson River Valley and in the Lake region.

CODLING MOTH (Carpocapsa pomonella L.)

Massachusetts

A. I. Bourne (August 20): Reports have been received from northern Worcester County that side-worm damage by the codling moth is very serious in that whole section, caused by late appearing first brood larvae.

New York

C. R. Crosby and assistants: Side-worm injury was not as prevalent as last year in the western part of the State, though rather more severe than usual in the Hudson River Valley.

Illinois

W. P. Flint (August 26): Second brood codling moth has increased in southern Illinois to a considerable extent in unsprayed orchards which average, according to Mr. Chandler's figures, 2 per cent infestation the latter part of June now show about 44 per cent infestation. A much lower percentage was found in the central and northern orchards.

Missouri

L. Haseman (July 28): Second brood of moths and worms seem to be split, forming two broods. Part of the moths at Columbia appeared July 10 to 15 and a part of the brood is still in the pupa stage.

Washington

Monthly Letter, Bureau of Entomology, No. 123 (July): "On July 8," writes E. J. Newcomer, "a specimen of Carpocapsa pomonella var. simpsonii Busck was found in the rearing jars at the Yakima laboratory. This is the only specimen of this variety ever reared at Yakima, although over 16,000 codling moths have been reared since the laboratory was established in 1919."

E. J. Newcomer (July 31): Eggs of the second brood began hatching July 7, which is about two weeks earlier than the average time. (August 23): The first moths of the second brood emerged August 16, about two weeks earlier than previously recorded at Yakima. There will probably be a much larger third brood of worms than usual.

RED-HUMPED CATERPILLAR (Schizura concinna S. & A.)

Maine E. M. Patch (August 12): This species has been out of style of late years, but seems to be coming in again. Reported at Vassalboro.

New York A. L. Pierstorff (August 2): Have been observed in small numbers at Honeoye Falls.

YELLOW-HEADED FIREWORM (Peronea minuta Rob.)

Ohio E. W. Mendenhall (August 11): The leaf folder is quite bad in the apple stock in the nurseries in Delaware County.

APPLE AND THORN SKELETONIZER (Hemerophila pariana Clerck)

Massachusetts A. I. Bourne (August 20): During the week of August 4 the second brood larvae of the apple and thorn skeletonizer were advancing pretty well toward maturity here in the Connecticut Valley. Unsprayed and uncared for trees were browned up nearly as badly as last year. By the succeeding week (August 11) numerous cocoons of this brood were being found. It is apparently working into sprayed orchards more than it did last year. Here at the college it was making its appearance at the time of the second brood in numbers enough to cause serious injury, and appeared to be particularly severe on our blocks of Wealthies. A special spray, applied August 11, checked the pest.

In the western part of Hampshire County the skeletonizer is not particularly abundant.

This pest has made its first appearance this year in Bristol County, where new growth was very badly riddled on many trees, especially in orchards which were not thoroughly sprayed.

Rhode Island A. E. Stene (August 22): I can report that the apple and thorn skeletonizer, of which we found the first moths in the State a year ago last spring, and which was sent in by fruit growers for the first time about August 1, 1923, is apparently widely distributed over the State, although no very striking injury has as yet been caused by the pest.

Connecticut Philip Garman (August 23): Just beginning to appear in any numbers on apple trees at New Haven. Much less abundant than last year.

M. P. Zappe (August 23): Very little damage being done in the State this year. More abundant around Ridgefield than in center and southern part of State. Very much less than last year.

New York

C. R. Crosby and assistants: In the Hudson River Valley and on Long Island the apple and thorn skeletonizer is not nearly as serious as last year. With the exception of a few neglected orchards they are doing no appreciable injury.

TENT CATERPILLAR (Malacosoma americana Fab.)

Connecticut

W. E. Britton (August 23): Egg clusters very abundant everywhere.

New York

Geo. M. Codding (August 20): At the present time many egg masses of the tent caterpillar are to be found, a fact which points to a bad outbreak next year unless these egg masses are killed. You may be interested to know that the tent caterpillar has been unusually prevalent throughout Westchester County this year. Whole orchards have been defoliated, as well as trees growing along the roadsides.

FALL WEBWORM (Hyphantria cunea Drury)

Maine

E. M. Patch (August 19): Report from Waldoboro states "Abundant."

Massachusetts

A. I. Bourne (August 20): August 8 to 10 the work of the fall webworm was beginning to make itself very apparent. The larvae were at this time about one-third grown.

Mr. Ide, county agent of Bristol County, reports that the fall webworm is somewhat more prevalent than last year in this County.

Mr. Calkins, of northern Worcester County, reports August 14 that this insect's work was just beginning to show.

New York

R. C. Coombs (August 9): In Monroe County nests are quite commonly noted.

Ohio

E. W. Mendenhall (August 15): Fall webworms are quite bad in apple orchards (farm orchards) in Miami County. These could easily be controlled by burning out with a torch.

Mississippi

M. R. Smith (July 29): The fall webworm is fairly common in the southern part of the State, but is by no means as abundant or as serious as last year.

YELLOW-NECKED CATERPILLAR (Datana ministra Drury)

Maine

E. M. Patch (August 13): This, like the red-humped caterpillar, has been scarce during recent years.

New York

G. E. R. Hervey (August 9): Considerable damage done in one orchard in Dutchess County.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

New York C. R. Crosby and assistants: Apple maggot seems to be quite general throughout the apple-growing sections of the State. Were emerging during the third week of July.

APPLE LEAFHOPPER (Fupoasca mali LeB. et al.)

New York L. C. Tyler (August 9): Common but not serious in Nassau County.

Massachusetts A. I. Bourne (August 20): Mr. Gould, from the western part of Hampshire County, reports that there does not appear to be any particular abundance of apple leafhoppers. This is interesting because of facts which will be brought out later relative to conditions in the eastern part of the State.

Mr. Ide, county agent of Bristol County, reports that leafhoppers in his region are getting more prevalent than at any time during the season; although up to now they do not seem to be causing any serious losses.

In the western half of Middlesex County Mr. Calkins reports that the leafhopper situation is very bad. The species has not been determined. Apparently a new brood of adults is just appearing and has attained considerable numbers.

Missouri L. Haseman (July): Nursery stock is not as generally attacked as last year and damage is not very severe. The leafhoppers are fewer than last year.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Indiana B. A. Porter (August 23): Second brood crawlers appeared July 28, two weeks later than normal.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

Massachusetts A. I. Bourne (August 20): August 18 to 20 the over-wintering eggs of the oyster-shell scale were first being deposited.

A MILKWEED CERAMBYCID (Tetraopes femoratus Lec.)

Kansas J. W. McColloch (August 6): The beetles were found in large numbers on the foliage of apple seedlings in a nursery at Silver Lake. They were feeding on the leaves and causing some injury. The nurseryman had noticed them on milkweeds and had cut out all the weeds, thus forcing the beetles to seek new food plants.

CLOVER MITE (Bryobia praetiosa Koch)

Kansas J. W. McColloch (August 18): The clover mite has caused considerable loss to apples in Sumner County. In many cases the trees have been entirely defoliated.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Massachusetts

A. I. Bourne (August 20): Unlike last year the European red mite is not showing up to any serious extent in our college orchards or those immediately around here, nor have I seen any orchard which shows serious bronzing anywhere in the vicinity of Amherst.

Mr. Gould, of Williamsburg in the western part of Hampshire County reports that this insect has not made its appearance in any serious numbers.

Mr. Ide, county agent of Bristol County, reports that the mite is increasing in abundance in this county.

Mr. Calkins, from northern Worcester County, reports that the mite is present and can be found in slight numbers in almost every orchard but owing to the quite general practice last season of using miscible oils when the leaves were down the pest was apparently so well controlled that it has not become as abundant as last year.

In Middlesex County Mr. Dayton reports that red mite is quite plentiful, and in a few orchards the damage has attained considerable proportions.

Connecticut

Philip Garman (August 23): Still very scarce as compared with last year. Hardly any can be found at New Haven.

Indiana

B. A. Porter (August 23): Moderate injury is apparent in occasional peach and apple orchards through southwestern Indiana.

Washington

E. J. Newcomer (July 31): The European red mite continues to be more numerous than usual on apples, pears, and prunes. Many growers are getting excellent results with weak oil sprays in controlling it. Newly-hatched individuals of the fifth brood were found July 6 nearly four weeks earlier than in 1923. (August 23): Predators have increased rapidly since August 1, and in many orchards where the mites have been numerous they are now hard to find. These predaceous enemies include Scolothrips sexmaculatus, a small black ladybird (Stethorus punctum), one or two species of predaceous mites (Seius sp.), and a predaceous bug (Triphleps insidiosus). The first larvae of brood 7 hatched August 17.

PEAR

PEAR PSYLLA (Psylla pyricola Foerst.)

New York

C. R. Crosby and assistants: The rather severe infestation of pear psylla in the Hudson River Valley was materially relieved by heavy rain during early August. In the western part of the State the situation is not at all serious.

PEAR AND CHERRY SLUG (Caliroa cerasi L.)

New York

G. E. R. Hervey (July 19): Doing some injury in one pear orchard in Dutchess County.

A. L. Pierstorff (August 2): Slight infestation noted in one or two orchards at Honeoye Falls.

PEACH

PEACH BORER (Aegeria exitiosa Say)

Utah Geo. F. Knowlton (July 31): Peach tree borer is heavy in many counties, and farmers in Boxelder County are planning for this fall an extensive treatment with paradichlorobenzene.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Indiana B. A. Porter (August 23): Very abundant in most of the peach orchards which have been weakened by the past winter. First-brood beetles began emerging July 28.

PLUM CURCULIO (Conotrachelus nenuphar Host.)

Georgia J. B. Gill (July 24): The plum curculio infestation has been unusually heavy on peaches growing around Thomasville. During the past few days many recent egg and feeding punctures have been observed on ripening fruit and very tiny larvae were found in several peaches that were closely examined. These observations seem to indicate that there is a partial second generation of the curculio in this section during the present season.

Indiana B. A. Porter (August 23): Considerable damage to ripening peaches was noted in several orchards near Evansville on August 13.

PEACH-TWIG MOTH (Anarsia lineatella Zell.)

Georgia P. L. Netterville (July 25): At Madison one came to pupal stage. The adult emerged August 4.

Indiana B. A. Porter (August 23): While scouting for the oriental peach moth in southern Indiana frequent infestations of the peach-twig borer have been found in neglected trees. Almost no injury in commercial orchards.

Utah Geo. F. Knowlton (July 31): Peach-twig borers are in the peaches at the present time. Where sprayed at the right time orchards are quite free from injury.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Georgia J. B. Gill (July 24): The occurrence of the oriental peach moth was first reported on July 9 at Thomasville, where it was found attacking the tender shoots and fruit of seedling peach trees. The insect appears to be more abundant in the city limits of Thomasville than in the rural districts immediately adjacent to town. At this writing nearly full grown larvae are found in ripened peaches collected from the ground. The excessive dropping of peaches from seedling trees in this section seems to have been caused by the combined attack of the curculio and brown-rot rather than from the feeding of larvae of the oriental peach moth. Larvae have been observed pupating on the bark of trunks and larger limbs of peach trees, as well

as in wooden boxes and lumber on the ground under infested trees. Pupae have also been seen on the outside of peaches while still on the tree, on the old fruit spurs, and in dead leaves that have been stuck to the limbs or branches by means of gum. Adults of this species have been reared at Thomasville on June 18, 19, 23, 24, 25, 29, July 1, 3, 11, 12, 13, 14, and 15. On individual material under observation at Thomasville it was determined that the length of the pupa stage was 7 or 8 days.

TARNISHED PLANT-BUG (Lygus pratensis L.)

New York A. L. Pierstorff (July 12): Doing considerable injury to budded stock at Honeoye Falls.

GRAPE LEAF-ROLLER (Desmia funeralis Huebn.)

Georgia F. F. Bibby (July 9): Reported in a peach orchard at Fort Valley.

A DYNASTID BEETLE (Strategus antaeus Fab.)

Georgia J. D. More (July 9): Adult taken at base of peach tree at Atlanta, but was not saved.

CHERRY

CHERRY APHID (Myzus cerasi Fab.)

Wisconsin H. F. Wilson (August 5): The cherry aphid has been more abundant than usual this year all through the State.

CHERRY FRUIT-FLIES (Rhagoletis cingulata Loew and R. fausta)

New York C. R. Crosby and assistants: Cherry fruit-fly was generally abundant throughout the State. In Ontario County unsprayed trees ran as high as 60 to 70 per cent infestation. Early Richmonds seemed to show more injury than Montmorencys. In Wayne County the former variety at a canning factory showed 7 per cent of the culls containing fruit-fly maggot, while other factories in the same county ran from 2 to 12 per cent of all the fruit.

CORRECTION Weekly News Letter, State of California, Vol. 6, No. 15: On page 172, Vol. 4, No. 5, August 1 number, second word on line 7 should read "not" instead of "now."

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

New York W. D. Mills (July 19): Counts made on early Richmond culls (floats in a canning factory in Wayne County show that 27 per cent of the culls contained curculio larvae. (July 26): Early Richmond at canneries contained from 1 to 8 per cent fruits infested with larvae

PEAR AND CHERRY SLUG (Caliroa cerasi L.)

New York K. E. Paine (August 9): In some cherry orchards in Chautauqua County this pest is becoming very abundant.

CHERRY LEAFMINER (Profenusa collaris McGill.)

New York A. B. Buchholz (June 14): Doing some damage in Columbia County.

PLUM

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

New York D. D. Ward (July 12): Most of the fruit in one orchard in Onondaga County was destroyed.

RED SPIDER (Tetranychus telarius L.)

California T. D. Urbahns (July 27): The common red spider is present in such numbers that very severe losses are resulting to the prune crops. Trees are completely defoliated in many orchards. The infestation, favored by a very dry season, is probably the most severe known to the prune industry. Cherries, pears, plums, and almond are also attacked.

California Weekly News Letter Vol. 6, No. 17 (August 23): Prune orchards, especially, of the Sacramento and San Joaquin Valleys have severely suffered from the attack of the red spider this year. Probably 30 per cent of the prune crop has been seriously damaged by this pest during the present season.

PEAR AND CHERRY SLUG (Caliroa cerasi L.)

South Dakota H. C. Severin (July 30): Very abundant on plum, sand cherry, and almonds. Damage is severe.

GREEN PEACH APHID (Myzus persicae Sultz.)

New York H. W. Fitch (July 12): Is becoming very abundant at Sodus.

RASPBERRY

STRIPED TREE CRICKET (Oecanthus niaricornis Walk.)

New York R. C. Coombs (July 26): Has done serious damage in one planting in Monroe County.

RASPBERRY CANE-BORER (Oberea bimaculata Oliv.)

Maine E. M. Patch (July 26): A correspondent from Milo writes "breaks at joint -- all branches are about the same."

New Hampshire P. R. Lowry (July 23): Several reports of injury to raspberry. A little more common than last year.

Ohio E. W. Mendenhall (August 18): Raspberry plantations near Piqua are infested quite badly with raspberry cane-borer.

Utah Geo. F. Knowlton (July 31): Raspberry cane-borers are doing damage to some patches in Davis, Boxelder, and Cache Counties.

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

Washington E. J. Newcomer (August 1): On June 27 a raspberry plantation in Yakima was found to be very seriously infested with this beetle. The owner had pulled up most of the plants and reported finding from 50 to 85 larvae and pupae about the roots of many of them. On the date of examination the adults were found in large numbers in the trash under the remaining plants.

CLOVER MITE (Bryobia praetiosa Koch)

Utah Geo. F. Knowlton (August 8): The brown mite is doing serious injury to raspberry patches in parts of Cache County and is present on apple trees and other crops.

GRAPE

ROSE-CHAFER (Macrodactylus subspinosus Fab.)

New York C. C. Wagoner (July 26): Very little injury has been reported except in a few places in Ulster County.

Wisconsin H. F. Wilson (August 5): The rose-chafer was abundant in the sandy regions of the northwest part of the State. This is the first year in nine that we have received more than a few specimens. They were reported as destroying roses, various garden crops, and corn. Just to what extent damage was done on these plants we do not know.

GRAPE PLUME-MOTH (Oxyptilus periscedidactylus Fitch)

New York C. R. Crosby (June 30): Specimens received from Penn Yan.

ABBOT'S SPHINK (Sphex codina abbotti Swains.)

New Hampshire P. R. Lowry (August 8): Has been sent in from several localities in the southern half of the State on grape.

GRAPE LEAFHOPPER (Erythroneura comes Say)

New York C. R. Crosby and assistants: In the eastern part of the State there is a moderate infestation, serious enough in places to require control measures.

Missouri

L. Haseman (July): Damage is not noticeable this season, especially in the grape-growing districts.

Texas

F. L. Thomas (August 9): A correspondent from Cisco writes: "A new pest to me."

LEAFHOPPERS (Erythroneura octo-notata Walsh, E. vitis Harr., and E. vulnerata Fitch)

Kentucky

H. Garman (August 23): Cultivated grapes are now suffering from three leafhoppers. Taking one season with another, these are our most injurious grape insects, though other pests, like the berry moth, are doing their share of mischief in some vineyards.

GRAPE FLEA-BEETLE (Haltica chalybea Ill.)

New York

A. L. Pierstorff (July 12): Only a few isolated infestations reported from Honeoye Falls.

GRAPE PHYLLOXERA (Phylloxera vitifoliae Fitch)

Indiana

C. R. Cleveland (August 18): Specimens of the leaf-infesting form of this insect have been received from several northern Indiana points.

GRAPE ROOTWORM (Fidia viticida Walsh)

New York

A. L. Pierstorff (July 12): Slight infestation noted at Honeoye Falls.

K. E. Paine (July 12): First beetles now emerging in Chautauqua County. (July 19): Beetles are now numerous even on fairly heavy soils. (August 9): Eggs are found in vineyards unsprayed while the beetles have largely disappeared.

CURRENT AND GOOSEBERRY

FOUR-LINED PLANT-BUG (Poecilocapsus lineatus Fab.)

Wisconsin

H. F. Wilson (August 5): The four-lined leaf-bug was abundant on currants and gooseberries in some localities. Considerable damage was reported.

GOOSEBERRY FRUITWORM (Zophodia grossulariae Pack.)

South Dakota

H. C. Severin (July 30): This is the first time this pest was reported from this State, damage being severe to gooseberries at Aberdeen and vicinity.

MULBERRY

WEST INDIAN PEACH SCALE (Aulacaspis pentagona Targ.)

Georgia

Jeff Chaffin (July 12): Reported attacking mulberry.

PECAN

PECAN NUT CASE-BEARER (Acrobasis hebescella Hulst)

Georgia

J. D. More (June): This pest was reported from Bainbridge, Ashburn, and Tifton during the month.

GENERAL STATEMENT

J. B. Gill (July 24): The pecan nut case-bearer has caused serious damage to the nut crop in pecan orchards from Baconton to Albany, Ga. It has also occurred in injurious numbers at Thomasville, Cairo, Metcalfe, Barwick, Moultrie, Tifton, Clyattsville, Ga., and Monticello, Fla. Reports of damage have also been received from points in Louisiana and Texas.

PECAN LEAF CASE-BEARER (Acrobasis nebulella Riley)

Georgia

J. D. More (May): Reported from Macon.

Georgia and Florida

J. B. Gill (July 24): The larvae of the pecan leaf case-bearer are now appearing in large numbers on the foliage of pecan trees throughout South Georgia and North Florida. This insect has also been found to be quite prevalent in the pecan orchards around Baconton, Ga., where it has only recently established itself as a first-class pest.

FALL WEBWORM (Hyphantria cunea Drury)

Georgia

J. D. More (July): Reported from Decatur.

J. B. Gill (July 24): The nests of the fall webworm are very conspicuous in many pecan orchards in South Georgia and the insect will cause considerable defoliation before the close of the growing season.

PECAN SHUCKWORM (Laspevresia caryana Fitch)

Georgia

J. B. Gill (July 24): The pecan shuckworm has been found infesting small green pecan nuts, but the amount of damage done by the larvae at this time is not of much consequence.

LITTLE HICKORY APHID (Monellia caryella Fitch)

Georgia

J. B. Gill (July 24): For the past few weeks the little hickory aphid has been quite abundant on the foliage of pecan trees at Thomasville.

PECAN BUD-MOTH (Proteopteryx bolliana Sling.)

Georgia

J. D. More: Reported from Chipley.

SOFT BROWN SCALE (Coccus hesperidum Linn.)

Georgia

J. D. More (July): Reported from Brunswick on mango and begonia.

TERMITES (Reticulitermes flavipes Kol.)

Texas F. L. Thomas (June 24): Report from Smithville, Bastrop County, states: "They are doing considerable damage to about 300 little pecan trees. These insects work on the root and bore the whole of the inside out, leaving only the bark." Another infestation on pecan seedlings and on cotton at Temple.

AN UNDERWING MOTH (Catocala agrippina Stkr. form subviridis Harvey)

Mississippi R. A. St. George (June 17): This insect has very materially increased in the region about Vicksburg, where it is reported they have an attack every four or five years. The insect has now practically defoliated all the bitter pecan trees in the region.

T R U C K - C R O P . I N S E C T S

GENERAL FEEDERS

PAINTED LADY BUTTERFLY (Vanessa cardui L.)

Wisconsin H. F. Wilson (August 5): The painted lady butterfly has been very abundant on Canada thistles, and many inquiries have come in to the office concerning the possibilities of completely eradicating the thistles by propagating the insects.

South Dakota H. C. Severin (July 30): This insect was extremely abundant in South Dakota this year and fed upon Canadian thistle entirely.

SOUTHERN GREEN PLANT-BUG (Nezara viridula L.)

Florida F. S. Chamberlin (August 2): The southern green plant-bug is very abundant upon okra plants at Quincy this season.

BUDWORM (Heliothis virescens Fab.)

Florida F. S. Chamberlin (August 2): A slight infestation of the tobacco budworm was observed upon okra plants on this date. This insect is one of the minor pests of okra in this region.

A MYRIAPOD (Syphophila immaculata Newp.)

Utah George F. Knowlton (July 31): This myriapod is reported as spreading in Davis County this year.

BLISTER BEETLES (Meloidae)

Kansas J. W. McColloch (August 20): Several species of blister beetles have been present in the gardens throughout the western two-thirds of the State. The principal damage has been to potatoes and tomatoes. Only one report of injury to alfalfa has been received.

SPRINGTAILS (Achoreutes armatum Nicolet)

Pennsylvania

Bureau of Entomology Monthly Letter, July, 1924: C. H. Popenoe, in charge of the truck-crop insect work at the Silver Spring, Md., laboratory, visited Pomeroy, Pa., and vicinity to investigate an outbreak of insects in mushroom houses. It was first reported that mites were the cause of the trouble, but upon investigation Mr. Popenoe found that springtails were the principal insects concerned. Cooperative experiments with the mushroom growers have been initiated.

POTATOES AND TOMATOES

TOMATO SUCK-FLY (Dicyphus minimus Uhler)

Correction

The note which appeared in Volume 4, No. 4, page 129, under the technical name Macrolophus separatus should have appeared under the above technical name.

SOUTHERN ARMYWORM (Prodenia eridania Cram.)

Florida

F. S. Chamberlin (August 21): A small amount of injury is being done on tomato plants by this insect.

SAY'S BLISTER-BEETLE (Pomphopoea sayi Lec.)

New York

C. R. Crosby and assistants: L. C. Tyler reports that on July 12 considerable injury was done in spots in Nassau County by this insect.

POTATO BEETLE (Leptinotarsa decemlineata Say)

New York

C. R. Crosby and assistants: At Honeoye Falls this insect appears to be very numerous this year, while in Onondaga County it is more prevalent than last year. In Genesee County it is quite abundant and most growers are applying control measures.

Wisconsin

H. F. Wilson (August 5): The Colorado potato beetle has been common, but for some reason it has not been ~~as~~ serious at Madison as in normal years.

POTATO FLEA-BEETLE (Epitrix cucumeris Harr.)

New York

C. R. Crosby and assistants: In Nassau County this insect appears to be very numerous in many late potato fields.

Indiana

C. R. Cleveland (August 19): A brood of these beetles appeared in great numbers on potatoes at the Horticultural Station Farm at LaFayette during the latter half of July. The plants were badly injured, and died rapidly under the combined attack of this insect and leafhoppers.

TOBACCO FLEA-BEETLE (Epitrix parvula Fab.)

Florida

F. S. Chamberlin (August 2): The tobacco flea-beetle is doing severe damage to tomato plants in this locality.

POTATO APHID (Macrosiphum solanifolii Ashm.)

New York

G. R. Crosby and assistants: In Suffolk County these insects were increasing in numbers rather rapidly in many fields in this county, while in Nassau County on July 12 they were becoming more serious, although many fields as yet have but a slight infestation. (July 19): The lice have at this date increased in numbers to such an extent that some growers are taking measures against them. (July 26): On this date were not increasing rapidly.

POTATO LEAFHOPPER (Empoasca malii LeB.)

New York

C. R. Crosby and assistants: In Onondaga County on August 9 this insect was becoming numerous in several fields.

LEAFHOPPERS (Jassidae)

Indiana

C. R. Cleveland (August 19): Have been rapidly increasing in abundance on potatoes the past month. Some fields at LaFayette have been killed.

TARNISHED PLANT-BUG (Lagrioida pratensis L.)

Indiana

C. R. Cleveland (August 19): The tarnished plant-bug has been reported as seriously injuring potatoes at Fairmount.

SOUTHERN TOBACCO HORNWORM (Protoparce sexta Joh.)

Florida

F. S. Chamberlin (August 16): Fall tomato plants are moderately infested with the southern tobacco hornworm.

NORTHERN TOBACCO HORNWORM (Protoparce quinqueaculata Haw.)

New York

C. R. Crosby and assistants: In Suffolk County on August 9 this insect was unusually abundant in certain plantings.

CORN EARWORM (Heliothis obsoleta Fab.)

Florida

F. S. Chamberlin (August 16): The tomato fruit worm is very abundant here at the present time. A few larvae of H. virescens have also been found feeding upon tomatoes.

CABBAGE

CABBAGE WORM (Pontia rapae L.)

New York

C. R. Crosby and assistants: In Suffolk County on August 9, the usual amount of injury is being done, while in Ontario County the insects are gradually increasing in numbers. At Honeoye Falls they are beginning to get numerous, and injury is already apparent.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

New York

C. R. Crosby and assistants: In Suffolk County maggots have nearly ruined one seed-bed.

CABBAGE APHID (Brevicoryne brassicae L.)

New York

C. R. Crosby and assistants: In Ontario County considerable infestation was observed on July 26; by August 9 the insects were not very abundant. In Suffolk County they have increased in great numbers during the past week, July 26. In Nassau County on August 1 they were very serious on late seed beds of cabbage and other crops, black radish, rutabagas, and other cruciferae being rather heavily infested.

Utah

George F. Knowlton (August 8): Cabbage aphids are very numerous and are doing damage throughout the State where cabbage is raised.

CABBAGE LOOPER (Autographa brassicae Riley)

New York

C. R. Crosby and assistants: In Suffolk County some damage was being done, as usual, on August 9. At Elba also this insect was doing some damage.

STRAWBERRY

STRAWBERRY CROWN-BORER (Tyloderma fragariae Riley)

Missouri

L. Haseman (July): This insect is now distributed over the southwestern Missouri berry district and is causing considerable damage to newly-set fields. It appears to be more numerous than last year. (August 4): 40 per cent of the crop damaged to this date.

STRAWBERRY-ROOT WEEVIL (Brachyrhinus ovatus L.)

Utah

George F. Knowlton (July 31): The strawberry crown girdler is numerous in some old strawberry beds in Davis and Cache Counties, making it necessary to plow them up.

STRAWBERRY SAWFLY (Emoria maculatus Norton)

Ohio

E. W. Mendenhall (August 16): The strawberry sawfly was quite bad on rose plants in one of the greenhouses in Springfield this summer, but it was controlled by the use of lead arsenate.

WHITE GRUBS (Phyllophaga sp.)

Ohio

E. W. Mendenhall (August 18): The damage done by white grubs is unusually bad this summer on strawberry plantations.

Missouri

L. Haseman (July): In one 10-acre patch at Joplin 50 per cent of the newly set plants were destroyed.

Kansas

J. W. McColloch (August 20): Strawberry beds at Ashland and Paola have been killed out by the grub.

BEANS

BEAN LEAF-ROLLER (Eudamus proteus L.)

Florida

F. S. Chamberlin (August 21): A considerable number of bean leaf-rollers are to be found in bean fields at this time at Quincy.

GREEN CLOVERWORM (Plathypena scabra Fab.)

New York

C. R. Crosby and assistants: Considerable damage to pods and blossoms noted in one instance in Suffolk County.

GRASSHOPPERS (Acrididae)

Florida

F. S. Chamberlin (August 2): Various species of grasshoppers are damaging bean foliage in the vicinity of Quincy.

GRANULATE CUTWORM (Feltia annexa Treit.)

Florida

F. S. Chamberlin (August 6): Cutworm larvae, mainly Feltia annexa, are doing much damage to young Kentucky wonder beans in this region.

TWELVE-SPOTTED CUCUMBER-BEETLE (Diabrotica 12-punctata Oliv.)

Florida

F. S. Chamberlin (August 16): The twelve-spotted cucumber-beetle is doing considerable damage to bean foliage in fields near Quincy.

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Pennsylvania

H. L. Weatherby (August 25): The Mexican bean beetle has been found in Washington and Green Counties.

Virginia

Neale F. Howard (August 15): Reported from nine counties in this State.

West Virginia

Neale F. Howard (August 15): Reported from fourteen localities in this State.

H. L. Weatherby (August 25): The Mexican bean beetle has been found in Marshall, Tyler, and Wetzel Counties.

South Carolina

Neale F. Howard (August 15): Reported from Greenville County.

Georgia

John B. Gill (July 24): The Mexican bean beetle is still causing serious damage to beans in this section (Thomasville). It has been observed that both adults and larvae feed extensively on the foliage of snap beans, while the feeding on lima or butter beans seems to be confined largely to the work of the adults.

Ohio

Neale F. Howard (August 15): Reported from fourteen localities in this State.

Kentucky

Neale F. Howard (August 15): Reported from Martin, Warren, Jefferson, Mason, Floyd, and Lincoln Counties.

Indiana

Neale F. Howard (August 15): Reported from Jefferson, Floyd, and Clark Counties.

J. J. Davis (August 18): On July 26 bean patches were examined in the upland back of New Albany with negative results. Later, found beetles not uncommon on pole string beans at the farm of Thos. Eurton, two miles west of New Albany, along the river. Found no eggs, larvae, or pupae, but plenty of evidence of larva feeding, and also empty pupal skins, showing that the beetles developed in this garden. (July 27): Visited farm of R. W. Rankin, 9 miles northeast of Madison. Mr. Rankin is the party who submitted the specimens to county agent Thomas, these being the first specimens from Indiana. The infestation was located 9 miles northeast of Madison and 13 miles from the river. There was a heavy infestation in a few feet of row in a bush string bean patch. Majority pupae; some larvae and adults. On return trip to Madison stopped at a field of pole lima beans one-half mile northeast of that city. Here is a heavy infestation causing appreciable injury. Stopped at a patch of pole string beans about 1 mile south of Watson Junction, northeast of Jeffersonville. Found one beetle and some typical eaten foliage, but not common. Did not have an opportunity to examine elsewhere.

C. R. Cleveland (August 19): The occurrence of the Mexican bean beetle reported last month in Jefferson County has since been verified by the personal inspection of Prof. J. J. Davis, who found the beetle abundant enough in some gardens to cause considerable injury to the leaves and pods of garden beans.

BEAN LFAP-BEETLE (Ceratoma trifurcata Foerst.)

Georgia

S. V. Brown (June): Infestation said to be severe at Cleveland.

PEAS

PEA APHID (Illinoia pisi Kalt.)

Wisconsin

H. F. Wilson (August 5): The pea aphid has been extremely numerous and has done a great deal of damage.

J. E. Dudley, Jr. (August 6): General rains practically wiped out the aphid over large areas from the middle to the last of July, and apparently, from reports along the Lake Michigan shore, it has done about the same thing there.

CUCUMBERS

STRIPED CUCUMBER-BEETLE (Diabrotica vittata Fab.)

Massachusetts A. I. Bourne (August 20): Here at the college the second generation of the striped cucumber-beetle began to make its appearance in the fields approximately the 31st of July. Newly-emerged beetles were seen at this time in considerable numbers.

New York C. R. Crosby (July 25): Many plants killed at Ira by the larvae in the roots.

Indiana C. R. Cleveland (August 19): Reports of severe injury to melons and cucumbers and requests for control information continue to be received. In some instances the larvae have killed the plants. Wilt and Mosaic are bad in many fields, especially in small gardens plantings.

Mississippi H. W. Allen (July 29): The adult beetles have been encountered at several places in Winston and Oktibbeha Counties, feeding on the rind of the melon, large areas of which have been thus eaten away and the melons made unmarketable.

Missouri L. Haseman (July 28): The beetles of apparently the first spring brood have recently emerged in great abundance. The crop is too far advanced to be seriously injured, but they are feeding on the blossoms. Much more abundant than last month.

South Dakota H. C. Severin (July 30): This insect is present in its usual numbers in South Dakota.

Nebraska M. H. Swenk (July 10-August 1): Complaints of injury by the striped cucumber-beetle to cucurbits are coming in about normal numbers.

TWELVE-SPOTTED CUCUMBER-BEETLE (Diabrotica 12-punctata Fab.)

Indiana C. R. Cleveland (August 19): This insect has been unusually abundant the past month at LaFayette, where it has conspicuously injured potatoes, cucumbers, melons, and other garden crops.

Kansas J. W. McColloch (August 23): Adults are reported feeding on leaves and stems of watermelons. A 40-acre field has been seriously injured.

MELONS

COTTON APHID (Aphis gossypii Glov.)

New York C. R. Crosby and assistants: In Suffolk County these insects are appearing in some plantings, and one grower reports them as serious.

Indiana C. R. Cleveland (August 19): The usual reports of serious injury by this insect are being received.

Nebraska M. H. Swenk (August 1): There continues to be far fewer reports than usual of injury by the melon aphid.

Kansas J. W. McColloch (August 16): Considerable injury has been reported during the past month from nearly all sections of the State. The aphids were late in making their appearance this year and the damage is not as severe as last year.

Texas O. G. Babcock (August 18): Melons not sprayed were almost completely killed by aphids. The heat increased the damage to nearly 90 per cent. Aphids on melons very bad during the past three weeks.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Massachusetts A. I. Bourne (August 20): In my report of last month I mentioned information received from Mr. Tillson, County agent of Middlesex County, that the squash bug was making its appearance in considerable numbers on greenhouse cucumbers; the first time in his experience he had seen this type of injury. Further information revealed the fact that squashes were grown between these greenhouses last season, which would at least account for the presence of the bugs in this immediate vicinity. Many of these matured either in or around the greenhouses and later transferred their attention to the cucumbers growing in the ranges. Prof. Koon reports an estimate of 15 per cent loss as a result of this particular outbreak.

Nebraska M. H. Swenk (July 10-August 1): Complaints of injury by the squash bug to cucurbits are coming in at about the normal rate.

ONIONS

ONION THRIPS (Thrips tabaci Lind.)

New York C. R. Crosby and assistants: Are much less abundant since the recent rains in Wayne County.

Indiana C. R. Cleveland (August 19): More numerous than usual on onions at LaFayette. The tops were badly "blasted" by the first of August.

Wisconsin J. E. Dudley, Jr. (August 6): Up to the last of July it appeared that severe infestation could be expected in August, and farmers were beginning to make inquiries at the field station. The 4 or 5 inches of rain since August 1, however, have greatly decreased the abundance of thrips, and it is just a case now whether they will again increase to injurious numbers. Probably twice as abundant as in an average year, although not generally distributed.

Utah George F. Knowlton (July 31): Is abundant in Davis County, and at Logan its work is noticeable in every patch examined.

BEETS

SPINACH LEAF MINER (*Peronya hyoscyami* Pana.)

Massachusetts A. I. Bourne (August 20): Prof. Koon, of our market garden station in Lexington, reports finding the beet leaf miner very abundant in plantings in the town of Waban, where the injury is apparently quite serious.

BEET LEAFHOPPER (*Entettix tenella* Baker)

Utah George F. Knovlton (July 31): Was found in most of the beet fields examined in Cache, Boxelder, Davis and Weber Counties, and reports are coming in of damage from this insect. Many fields are from 60 to 90 per cent infected with curly leaf, and some of the farmers are giving up their beets as lost. Injury is usually severe. (August 8): Beet leafhopper in most beet sections of the State. In Boswell and other places tracts of beets are being plowed up. Many large tracts of beet land are in bad condition and may not be harvested this fall.

SWEET POTATO

SWEET-POTATO LEAF-BEETLE (*Typophorus viridicyaneus* Crotch)

Georgia J. D. More (June 27): Reported from Atlanta, attacking sweet potatoes.

TWO-STRIPIED SWEET-POTATO BEETLE (*Cassida bivittata* Say)

Georgia C. V. Shirley (July 21): Reported from Fayetteville, and also as doing considerable damage to the farm of Andrew Adams at Kenwood; emerged on 26th.

SWEET POTATO WEEVIL (*Cylas formicarius* L.)

Florida B. L. Boyden (August 19): Summer inspection in the Baker-Charlton area has been completed and no sweet potato weevils found. Only one infested property has been located since fall inspection in 1932. This was found August 8, 1923.

FALL ARMYWORM (*Laphygma frugiperda* S. & A.)

Florida B. L. Boyden (August 19): Less damage to sweet potatoes by semi-tropical and fall armyworms has been noted this season than usual, although the worms are becoming more abundant and may do some damage later.

COFFEE-BEAN WEEVIL (*Araccerus fasciculatus* DeG.)

Florida B. L. Boyden (August 19): The coffee-bean weevil is quite abundant in old sweet potato banks, working in dried and decayed potatoes. Instances of work in solid potatoes have been noted.

SOUTHERN FIELD - CROP INSECTS

COTTON

BOLL WEEVIL (Anthonomus grandis Boh.)

General

B. R. Covell (August 25): The weevil season of 1924 which is now drawing to a close has been a most peculiar one. Emergence over the cotton belt as a whole was generally rather light, with the exception possibly of some extreme southerly points such as the Gulf Coast of Texas. In most of the territory, however, the initial emergence ranged from $1/5$ to $1/10$ of that of last year. For this reason weevils were quite generally not abundant enough to cause any particular injury to the bottom crops of cotton, which were made during the activities of individuals which had emerged from hibernation. Following this, of course, the question of summer rainfall became the dominant one. Roughly speaking, from Alabama westward the season has generally been very abnormally dry. In many sections there was no precipitation from May until the middle of August, other than purely local showers. This absence of general rains brought about a very high degree of climatic control, which was accentuated by the unusually small plant growth of the season. As a result, throughout this territory weevil damage has been abnormally small. Of course, in almost all localities there are a few fields which for some reason or other produced a more or less normal growth of cotton and had sufficient weevils to do some damage, but these are the exception rather than the rule. For example, in the vicinity of Tallulah, where in a normal season almost every field of cotton is injured somewhat by the weevil, we have not over a half a dozen fields out of more than 500 which are under observation which have experienced any damage whatever from the weevil this season. In all others the combination of low emergence followed by a high degree of climatic control has kept the weevil at such a low ebb that there has been absolutely no crop loss attributable to boll weevil. The recent rains are apparently stimulating multiplication of the weevils somewhat, but the majority of crops are so completely mature that this will have little significance as far as the present season's cotton is concerned, the main question now being the one of weevil abundance for entering hibernation.

The southeastern States, particularly Georgia and South Carolina, had a very different season, experiencing more or less the ordinary rainfall, and weevil damage has been very much heavier, though probably not as heavy as a general rule as has been the case for the past couple of years.

Damage by other insects this season has been, as usual sporadic and local. Throughout the areas where there has been a shortage of rainfall, both aphids and red spiders have been very exceedingly abundant, as is always the case in dry years; and here and there they have become sufficiently abundant to actually injure the crop. The fall armyworm has been

exceedingly injurious to cotton in many sections this year; in fact, several districts have done considerable poisoning where this species has cleaned up hay crops and then moved on to cotton. There has also been a rather unusual amount of injury by miscellaneous lepidopterous larvae of quite a number of species. All of these outbreaks, however, have been purely local.

The cotton leaf worm appeared early in July along the Gulf coast in Texas, but was held in check partly by climatic conditions and partly by the fact that approximately 50 per cent of the acreage in this territory was being poisoned for boll weevil control. During the past few days numerous reports have been received of the leaf worm, extending up well into northern Arkansas. It is now too late for this worm to do serious damage as a general rule, other than affecting the grade and staple of the cotton, though along the northern edge of the belt the crop is very light and an invasion of the worm any time before frost will be a serious matter.

Georgia

John B. Gill (July 24): The Mexican boll weevil is not so destructive this year as in 1923. Cotton is fruiting very well and indications are that satisfactory yields will be obtained in many fields in this section.

BOLLWORM (Heliothis obsoleta Fab.)

Georgia

John B. Gill (July 24): The cotton bollworm has been causing some damage to cotton bolls in the vicinity of Thomasville, Ga. It is reported that this insect is not readily controlled by the calcium arsenate dust as used for the boll weevil.

California

T. D. Urbahns (July 24): Upon inspection of cotton fields on the California side of the Yuma Valley the boll worm was found to be destroying many bolls. Present indications pointed to considerable loss before maturity of the crop.

COTTON LEAFWORM (Alabama argillacea Huebn.)

Alabama

J. M. Robinson (telegram dated August 11): Cotton leafworm adult taken at Auburn on August 6th. Greenish larvae found on the 9th. Adult received from Guntersville on the 9th. Notifying all county agents today.

Arkansas

Dwight Isley (August 18): Half-grown larvae of cotton leafworm collected in Lee County on August 14, and in Lincoln County on August 15.

Louisiana and Arkansas

W. D. Hunter (telegram dated August 25): Received reliable reports of cotton leafworm from five points in Arkansas and from Madison Parish in Louisiana. The Arkansas infestation is reported as being heavy.

Texas

W. D. Hunter (August 14): The leafworm first appeared in the United States this season during the first few days of July, about a month later than in 1923. The first worms were found in Calhoun County, on the coast of Texas. A few days later a few infestations were reported from Calhoun County southward along the coast to Brownsville.

The infestations have been exceedingly slight. Inspectors who have been in the field for several weeks report that no fields have been completely defoliated. The most extreme damage noted anywhere is in the vicinity of Brownsville, where an occasional field has been partly defoliated in patches. Generally speaking, the insect is just about maintaining its status and is not increasing the intensity of the infestation, or spreading.

The reasons for the failure of the insect to spread are several. In the first place, there are large quantities of arsenicals available throughout the invaded region. This has made it possible for farmers whose cotton was not poisoned to obtain arsenicals and check the infestation at the beginning. The third and probably most important factor operating has been an extreme and protracted drouth.

CORN-SILK BEETLE (Luperodes varicornis Lec.)

Georgia

Watson Usery (July 7): At Thomson this insect is said to be doing considerable damage to the edge of a field.

FULLER'S ROSE BEETLE (Pantomorus fulleri Horn)

Georgia

J. D. More: Reported from Palmetto on June 17, Cartersville June 24, and Raleigh on June 30, attacking cotton.

COWPEA CURCULIO (Chalcodermus aeneus Boh.)

Georgia

J. D. More (June 25): Reported by Ralph S. Collier at Comer on this date as attacking cotton.

A WEEVIL (Lixus sylvius Lec.)

Georgia

J. D. More (July 21): T. J. Hamil on July 21 reports this insect attacking cotton and breeding in ragwood at Cleveland, Ga.

MELON APHID (Aphis gossypii Glov.)

Georgia

J. D. More (July 15): J. I. Tyre, on July 15, reports this insect attacking cotton at Mt. Vernon, and also at Harlem.

COTTON CUTWORM (Prodenia ornithogalli Guen.)

Georgia

J. D. More (July 15): Reported from Americus attacking cotton a single larva taken.

COTTON RED SPIDER (Tetranychus telarius L.)

Georgia

J. D. More (July 10): F. A. Siuefield reports from Wrightsville this insect attacking cotton on this date,

CONCHUELA (Chlorachroa ligata Say)

Texas

W. D. Hunter (August 21): Reported that "Conchuela" had recently been doing considerable damage to cotton in the Pecos Valley in western Texas. It had made its way into cotton fields from alfalfa, where it had been unusually abundant at the time of the cutting of the hay crop.

SUGAR CANE

SUGAR-CANE BORER (Diatraea saccharalis cramboides Grt.)

Louisiana

T. E. Holloway and W. E. Halpny. The following figures represent the annual percentage infestation of sugar-cane borer in the several cane growing parishes of Louisiana over a period of 10 years, and are presented here for the use of workers in other regions. The percentage was obtained by examining 200 stalks at random per field, and represents the percentage of canes bored. The number of fields examined in a Parish varied from 1 to 39, the average being 5.5, and the Parish average given below is the mean of the field averages of that Parish.

Parishes

	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Lafourche	00	55	00	93	89	64	00	34	55	76	46	85
St. James	00	00	00	90	91	49	74	00	65	63	37	93
Ascension	56	00	00	00	00	44	00	46	60	47	34	53
W. Feliciana	00	60	94	00	00	32	00	00	00	00	00	00
Iberia	00	00	84	70	00	64	00	15	37	39	19	17
St. Mary	27	14	52	87	75	35	16	6	7	62	23	68
Assumption	59	71	85	75	93	45	54	00	64	66	46	77
Iberville	00	57	67	53	99	71	73	52	81	83	59	79
Terrebonne	00	00	00	00	00	47	00	19	22	60	43	89
W. Baton Rouge	00	00	00	85	00	31	00	00	50	97	42	72
St. John	00	75	00	60	00	83	00	28	75	89	100	68
Orleans	52	38	74	43	38	20	57	18	00	00	00	00
E. Baton Rouge	77	77	92	68	00	00	00	00	00	00	00	00
LaFayette	57	00	93	50	99	00	55	45	00	00	00	00
Acadia	00	00	84	50	00	00	00	00	00	00	00	00
St. Landry	00	00	61	11	24	00	00	24	00	00	00	00
Vermilion	00	00	00	00	98	00	97	00	00	75	34	51
Jefferson	00	00	00	00	00	00	00	00	00	91	00	74

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FOREST AND SHADE - TREE INSECTS

GENERAL FEEDERS

GIPSY MOTH (*Porthetria dispar* L.)

New Hampshire P. R. Lowry (August): Much less common than normally, there having been no woodland defoliation in the State, as far as I know.

FALL WEBWORM (*Hyphantria cunea* Drury)

Connecticut M. P. Zappe (August 23): Webs of the fall webworm do not seem to be very abundant this year, and are not as plentiful as last year.

PERIODICAL CICADA (*Tibicina septendecim* L.)

New York W. T. Davis (August 4): Relative to the 17-year cicada on Staten Island, in 1924, I can state that on June 23 I heard about 6 singing in the woods immediately south of the railroad station at Oakwood Heights. I saw two of the males, and climbed up the small trees after them, but they flew away, owing to the jarring of the trees. Morris Gerst has given me the right fore wing of a 17-year cicada found by him at West New Brighton, also on June 23, and Charles P. Benedict reported that he had heard several singing in June in the trees about his home at West New Brighton. Frederick M. Schott also heard about a dozen singing at Bear Mt., New York, in June.

New Jersey W. T. Davis (August 4): At Murray Hill, on June 16, Frederick M. Schott found a dead 17-year cicada, which he has given to me, and on June 24, he found a few at Califou, N.J. As in 1907, the specimens do not appear to have been numerous in this vicinity.

Georgia J. D. More (August 18): It is also noteworthy that with the exception of a single report made by Mr. Chaffin, on July 10, of the 13-year old cicada said to be found at Savannah no other information was received concerning this pest, although letters of warning were sent to the various county agents at places where it might have been expected that it would appear. No specimens of these cicada were forwarded to the Atlanta office.

WHITE MARKED TUSSOCK-MOTH (*Hemerocampa leucostigma*
S. & A.)

Indiana C. R. Cleveland (August 19): Is unusually abundant at LaFayette.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Ohio

E. W. Mendenhall (August 11): The bagworm is quite bad in Montgomery County. I find some apple orchards eaten up with this pest. Advise spraying with lead arsenate. (August 16): The American arbor vitae are badly infested with bagworm in one locality north of Springfield, Ohio.

Missouri

L. Haseman (August 22): These worms work on the trees until the branches are withered and dead and several large trees are reported to have been killed out right, in the western part of this State.

Kansas

J. W. McCulloch (August 20): Bagworm injury ~~bis~~ is on the increase over the eastern quarter of the State and many trees are being killed. Injury has been reported on cedars, pines, arbor vitae, plum, apple, cherry, boxelder, elm and maple.

FALL CANKERWORM (Alsophila pometaria Harr.)

New York

Geo. M. Codding (August 20): The outbreak of the canker worm which we had this year is the worst that has ever been known. It defoliated whole sections and was not in the least particular which trees it attacked. Anything that was green seemed to be eaten. We sprayed trees and shrubs which were never sprayed before in combating this pest.

ELM SPANWORM (Ennomos subsignarius Huebn.)

New York

C. R. Crosby and assistants: W. T. M. Forbes reported on July 23 that a very heavy flight of moths were observed at Ithaca.

BIRCH

A SAWFLY LEAF MINER (species undetermined)

New York

E. P. Felt (July 28): An unknown sawfly leaf miner of gray birch was abundant and widely distributed in the Hudson Valley, sprout birches having their leaves somewhat abundantly disfigured by the rather large mines. The work of this insect was first noted in 1923.

CAMPHOR

CAMPHOR THIRIPS (Cryptothrips floridensis Watson)

Georgia

John B. Gill (July 24): The camphor thrips is again manifesting itself as a serious pest on camphor trees in this section (Thomasville). Last year this species caused considerable damage to camphor trees in this locality.

CATALPA

CATALPA SPHINX (Ceratomia catalpae Boisd.)

Kentucky H. Garman (August 23): The catalpa sphinx is giving us more trouble than usual by stripping the leaves from the trees in our parks and about premises. We have had numerous complaints of injury this season.

Indiana C. R. Cleveland (August 19): The catalpa sphinx continues to be the subject of many reports.

FOUR-HORNED SPHINX (Ceratomia amyntor Hubn.)

Ohio E. W. Mendenhall (July 30): The four-horned sphinx is very bad in Licking County, Ohio. Advise spraying with lead arsenate. (August 7): In Montgomery County the four-horned sphinx is very bad on catalpa trees. Spraying with lead arsenate seems to check its work.

ELM

EUROPEAN-ELM SCALE (Gossyparia spuria Modeer)

Ohio E. W. Mendenhall (August 14): I found the European elm scale on elm trees in nurseries near Sidney, Shelby County.

Indiana C. R. Cleveland (August 19): The European elm scale has been reported from Indianapolis, where severe injury was observed.

ELM COCKSCOMB GALL (Colopha ulmicola Fitch)

South Dakota H. C. Severin (July 30): Unusually abundant on elm and appearing general throughout the State.

WOOLLY ELM APHID (Eriosoma americanum Riley)

South Dakota H. C. Severin (July 30): Exceptionally abundant this year, and appearing general throughout this State.

ELM LEAF-BEETLE (Galerucella xanthomelaena Schr.)

Connecticut Geo. M. Codding (August 20): In sections throughout Fairfield County, Conn. the elm leaf beetle is defoliating many of the elms. This pest is worse than it has been for several years.

W. E. Britton (August 23): Abundant at Greenwich, Wilton, and New Haven, and causing damage locally in the southwestern portion of the State. Damage reported also from Guilford and Farmington. Work of beetle showed up much later than usual and many trees including some sprayed ones have brown leaves which are dropping.

New York

E. P. Felt (July 28): Elm leaf-beetles are generally present in small numbers in the Hudson Valley, though occasional groups of trees, particularly English elms, are seriously injured. This latter may be associated with unusually favorable food, such as European elms or exceptional near-by winter shelter, such as sheds and belfries.

C. R. Crosby and assistants: In Dutchess County on August 2 these insects were very destructive and practically all varieties of elms were skeletonized this year.

Geo. M. Codding (August 20): In sections throughout Westchester County, the elm leaf beetle is defoliating many of the elms. This pest is worse than it has been for several years.

Michigan

R. H. Pettit (July 23): This insect was found at Monroe, Mich., on this date. C. L. Burton, county agricultural agent, has just brought in specimens and reports the partial defoliation of a goodly number of elms in the city of Monroe.

California

T. D. Urbahns (August 3): Upon investigating an attack of the elm leaf beetles on street trees in Fresno this species was for the first time recorded from this State. Trees were being defoliated on several blocks, and in about eighty blocks were signs of infestation. The elm is an important shade tree throughout the State and every effort will probably be made to keep the pest down. Three generations are expected in the long summer season.

LOCUST

LOCUST LEAF-MINER (Chalepus dorsalis Thunb.)

Kentucky

H. Harman (August 23): Probably our most noticeable insect injury at the present time is that due to the locust leaf miner. The black locust is a common tree in Kentucky, and everywhere in the eastern part of the State it is recognizable at a distance by its brown appearance, caused by the attacks of these insects.

MAPLE

GOUTY VEIN GALL (Dasyneura communis Felt.)

Kentucky

H. Harman (August 23): Sugar maples are suffering from injury by a small gnat whose galls, consisting of elongated swellings on the veins of the leaves, are due to the species described by Felt as Dasyneura communis.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Indiana

C. R. Cleveland (August 19): The cottony maple scale is killing soft maples at Frankfort. It has also attracted unusual attention at Fowler.

RED SPIDER (Tetranychus sp.)

Kentucky

H. Garman (August 23): Sugar maples are suffering from the attacks of red spider, a pest that attacks low-growing plants like phlox.

OAK

OAK LECANIUM (Lecanium quercifex Fitch)

Georgia

J. D. More: Reported from Montezuma on July 3, and from Farmington on June 26, attacking oak.

APPLE-TREE PRUNER (Hypermallus villosus Fab.)

New York

C. R. Crosby and assistants: Reported by H. B. Davis on August 2 from Suffolk County, with statement that a rather heavy infestation was found.

PINE

COTTONY PINE SCALE (Pseudophilippia quantancii Ckll.)

Georgia

John D. More (July 11): S. B. Adair reported that this insect was attacking pine at Mt. Berry on this date.

OWL MOTH (species undetermined)

Germany

A. E. Boadle, Acting Chief, Lumber Division, Bureau of Foreign and Domestic Commerce, Department of Commerce. (American Trade Commissioner Douglas P. Miller, Berlin, July 24, 1924): The present summer has been the occasion of extensive ravages throughout the forests of eastern Germany by a small night-flying moth called the "owl moth" in Germany. This insect extracts the sap from pine needles and in a short time caused the death of the entire tree. It is estimated that during the present year 8 to 10 million solid cubic meters of lumber, particularly pine and fir, will have to be cut and placed on the market.

Large forest areas in Brandenburg, Pomerania, West Prussia and Silesia are being devastated by these insects and the entire forests are turning brown and shrivelled. It seems that the only method of combating the pest is the cutting down of trees in the infested areas. Further information concerning the effects of this forest pest will be forwarded as it comes to hand.

SPRUCE

SPRUCE GALL APHID (Chermes abietis L.)

Rhode Island

A. E. Stene (August 22): Spruce chermes have been reported as doing considerable damage in a few plantations in the northern part of the State.

New York

C. R. Crosby (July 17): At West Falls this insect was attacking spruce; twigs bearing galls were received.

PINE-LEAF SCALE (Chionaspis pinifoliae Fitch)

Utah

George F. Knowlton (August 9): The pine leaf scale is present throughout the State, and doing considerable damage to ornamental Colorado blue spruce trees at Fountain.

RED SPIDER (Tetranychus spp.)

Ohio

E. W. Mendenhall (August 18): The red spiders are quite bad this summer in southern and western Ohio on evergreen in nurseries and private plantings. Dry sulphur seems effective.

Missouri

L. Haseman: Considerable damage to ornamental trees has been reported both in nurseries and in parks in Kansas City. More than usual in abundance as compared with an average year.

WALNUT

YELLOW-NECKED CATERPILLAR (Datana ministra Drury)

Ohio

E. W. Mendenhall (August 18): The larvae of the yellow-necked caterpillar are found quite generally in the State this year, and the damage done is somewhat extensive.

ALDER

INTERRUPTED COTTONWOOD LEAF-BEETLE (Lina lapponica L.)

North Carolina

R. A. St. George (June 1): Nearly all alder bushes in fields and woodsides surrounding locality heavily attacked by larvae; many pupating. Many bushes entirely defoliated or partly so, at Biltmore.

HACKBERRY

HACKBERRY BUD-GALL (Pachypsylla celtidis-gemma Riley)

Nebraska

M. H. Swenk (July 10-August 1): A rather unusual number of complaints have been received this summer from some of our western counties of heavy infestations of hackberry leaves with the hackberry nipple gall, produced by Pachypsylla celtidis-gemma.

GLOOMY SCALE (Chrysomphalus tenebricosis Comst.)

Georgia

John D. More: Reported from Savannah by V. C. Durham on July 17 as attacking hackberry.

CHESTNUT

A BEEBLE (Macrodactylus angustatus Beauv.)

Georgia

John D. More: Reported from Atlanta on this date as attacking chestnut, causing severe damage to foliage.

GUM

WALNUT SCALE (Aspidiotus juglans-regiae Comst.)

Georgia

Jeff Chaffin (July 11): Reported from Savannah as attacking gum on this date.

SUGAR BERRY

LATANIA SCALE (Aspidiotus lataniae Sign.)

Georgia

John D. More: Reported from Savannah by V. C. Durham on July 17 as attacking sugar berry on this date. Severe infestation.

IRONWOOD

BARNACLE SCALE (Ceroplastes cirripediformis Comst.)

Georgia

John D. More (July 17): V. C. Durham reports this insect attacking ironwood at Savannah on this date.

I N S E C T S A T T A C K I N G G R E E N H O U S E

A N D O R N A M E N T A L P L A N T S

COLUMBINE

COLUMBINE BORER (Papaipema purpurifascia G. & R.)

New Hampshire P. R. Lowry (July 10): Killed practically all columbines in a garden at Walpole.

DAHLIA

TWELVE-SPOTTED CUCUMBER-BEETLE (Diabrotica 12-punctata Fab.)

Georgia J. D. More (June 16): Reported from Concord as attacking dahlias, etc. on this date.

SUNFLOWER WEEVIL (Rhodobaenus tredecimpunctatus Ill.)

Kansas J. W. McColloch (August 20): Grubs thought to be this species are abundant in the stems of dahlias in a nursery at Holton.

STALK BORER (Papaipema nebris nitela Guen.)

Ohio E. W. Mendenhall (August 18): Sweet corn, peonies, and golden glow infested quite extensively about Columbus. I find the stalk-borer quite prevalent in many sections of the State this year.

DELPHINIUMS

ASH-GRAY BLISTER BEETLE (Macrobasis unicolor Kby.)

New Hampshire P. R. Lowry (July 10): Reported attacking potatoes and delphiniums at West Alton and Whitefield.

KUDZU VINE

GREEDY SCALE (Aspidiotus camelliae Sign.)

Georgia John D. More (July 17): Reported by V. C. Durham on this date attacking kudzu vine.

LILAC

A BLISTER-BEETLE (Pomphopoea sp.)

North Dakota C. N. Ainslie (August 20): This species appeared numerous and destructive to lilac bushes, feeding on the leaves stripping the bushes at Dickinson.

OYSTER SHELL SCALE (Lepidosaphes ulmi L.)

Indiana C. R. Cleveland (August 19): Frequent reports of severe injury to lilacs in LaFayette are being received. It has also been reported on maple and walnut.

MAGNOLIA

TULIP SCALE (Toumeyella liriodendri Gmel.)

Georgia Jeff Chaffin (July 11): Reported from Savannah to be attacking magnolia.

ORCHID

IVY SCALE (Aspidiotus hederae Vallot)

Georgia John D. More (June 26): Reported by V. C. Durham to be attacking orchid.

PALM

FLORIDA RED SCALE (Chrysomphalus aonidum L.)

Georgia John D. More (June 26): Reported by V. C. Durham to be attacking palm.

PHLOX

RED SPIDER (Tetranychus sp.)

Indiana C. R. Cleveland (August 19): Red spider continues to be unusually abundant on the leaves of phlox, other ornamental plants and shade trees.

PRIVET

WHITE GRUBS (Phyllophaga sp.)

Ohio E. W. Mendenhall (August 18): Large per cent of privet stock in the nurseries in the southwestern part of Ohio have been killed by white grubs this summer.

WEST INDIAN PEACH SCALE (Aulacaspis pentagona Targ.)

Georgia John D. More (July 11): Reported from Savannah to be attacking privet.

CHERRY SCALE (Aspidiotus forbesi Johnson)

Georgia John D. More (July 17): V. C. Durham reported this insect to be attacking Amoor River privet.

SPIREAE

SPIREAE LEAF-TYER (Argyroploce hemidesma Zell.)

Ohio E. W. Mendenhall (August 16): This insect did considerable

damage to the spiraea stock in nurseries near Urbana, Ohio. It can be controlled successfully by spraying with lead arsenate.

I N S E C T S A F F E C T I N G M A N A N D D O M E S T I C

A N I M A L S

MAN

CHIGGERS (Trombicula tlalzahuatl Murray),

Texas D. C. Parman (July 26): The red bug, or chigger, has been quite noticeable in the canyon country during the month. It has caused considerable loss in young turkeys and chickens, and has been quite annoying to man. The damage has been less in the lower country.

STRAW-ITCH MITE (Pediculoides ventricosus Newp.)

Maryland Perez Simmons (August 25): The U. S. Entomological Laboratory at Woodside became so seriously infested by these mites that several of the men were badly affected.

CATTLE

A HORSEFLY (Tabanus rubescens Bellardi)

Texas D. C. Parman (July 25): The canyon horse fly has diminished during the month until it is rarely observed at present. There is very little oviposition on the stones in the rivers at Uvalde. (August 21): The canyon horse fly has rarely been observed during the month either in the canyons or to the South; never more than a single specimen observed on stock. Egg masses are very few; the egg parasite is always present, and a good percentage of the eggs are parasitized.

COMMON CATTLE-GRUB (Hypoderma lineatum DeVill.)

Texas O. G. Babcock (August 10): Appearing very early, fairly well developed on August 6, 8, and 9. The size of the warble indicates that they were present by the beginning of August.

HORN FLY (Baematobia irritans L.)

Indiana C. R. Cleveland (August 19): Horn flies on cows have not been as numerous as in some seasons past.

Texas

D. C. Parman (July 25): The horn fly has practically disappeared from cattle during the month. It is rare to see more than 10 to 15 on any animal, and in the vicinity of Uvalde most animals have none.

O. G. Babcock (August 6): At Sonora, San Angelo, Onona, Sheffield, and Texas Experiment Station this pest is reported attacking cattle and sheep; from 50 to 200 flies per animal on cattle; few on sheep, especially short wooled.

D. C. Parman (August 21): The horn fly is very rarely observed at Uvalde except in the heads of the canyons or in heavy timbered country along the rivers; never more than 100 on any cattle.

STABLE FLY (*Stomoxys calcitrans* L.)

Indiana

C. R. Cleveland (August 19): On some farms the stable fly is proving troublesome to both horses and cattle. Experimental tests of various repellent sprays, conducted in nine northern Indiana herds, are producing some very interesting data on the value of such materials in protecting dairy cows from fly attack.

Texas

D. C. Parman (August 2): The dry hot weather at Uvalde has practically exterminated the stable fly at this place, but an occasional adult is observed in the canyons and in the farming territory to the east. In a few places where considerable oat straw has accumulated in protected places to which stock have access the flies are quite noticeable.

SCREWWORM (*Chrysomya macellaria* Fab.)

Texas

D. C. Parman (July 25): Adults of the screwworm fly have diminished about 40 per cent in the trappings during the month and are about normal for the season or a little above. Cases of worms run about 5 per 1,000 in goats and sheep and 2 to 3 per 1,000 in cattle and horses. (August 21): The screwworm fly had diminished at Uvalde until it is very rarely found (less than 1 per 1,000). There has been no rain since June 30, and we are experiencing one of the longest periods of maximum temperatures since the station was established.

O. G. Babcock (August 4): At Sonora there has been no rain since early June and the soil and air are very dry; flies are therefore few in numbers.

POULTRY

POULTRY FEATHER MITE (*Liponyssus silvicularum* C. & F.)

Indiana

C. R. Cleveland (August 19): The feather mite has been reported

from an additional locality, Cedar Lake. Control measures were explained, and an earnest effort has been made to clean up the infestation, which now seems to be well under control.

LARGE HEN LOUSE (Menopon biseriatum Piag.)

Texas

D. C. Parman (July 25): The body lice in most flocks have decreased markedly during the last month. At Uvalde this is probably accounted for by the fact that the weather has been very dry and hot and the hens have a better chance to dust. (August 21): The body lice of hen have noticeably decreased at Uvalde, and it is difficult to obtain material for experimental work.

SMALL BODY HEN LOUSE (Menopon pallidum Nitzsch)

Texas

D. C. Parman (July 25): The shaft louse appears to hold its own better than the body louse and is generally quite abundant at Uvalde in most flocks, and heavy infestations are found on some individuals. (August 21): The shaft louse is present in normal numbers and is generally found in most flocks and on nearly all of the older fowls at Uvalde.

STICKTIGHT FLEAS (Echidnophaga gallinacea West.)

Texas

D. C. Parman (July 25): The hen flea is again making its appearance in noticeable numbers in a few flocks at Uvalde. In one instance a small loss (4 or 5) has occurred in a flock of about 800 hens and about 4 per cent of the flock is heavily infested; others have some fleas attached. (August 21): The hen flea has increased at Uvalde during the month, and in some flocks the infestation has become very heavy. Losses by death have been as high as 2 per cent or more, and several flocks are in very bad condition.

FOWL TICK (Argas miniatus Koch)

Texas

D. C. Parman (August 21): The fowl tick has at least held its own at Uvalde and is probably more than normal in numbers. It is generally present except where strict remedial measures are used. It has probably contributed to the loss by death in some flocks.

CHICKEN HEAD LOUSE (Lipeurus heterographus Nitzsch)

Texas

D. C. Parman (August 21): The head louse is present in normal numbers and has caused more losses in the summer-hatched chickens at Uvalde.

CHICKEN MITE (Dermanyssus gallinae Redi)

Indiana

C. R. Cleveland (August 19): Poultry mites have been the subject of several reports.

Texas

D. C. Parman (August 21): The only infestation of the chicken mite found during the year at Uvalde was observed on July 8. Apparently the infestation had been very heavy, but the louse had been scalded out with boiling water, and kerosene has been used in some places. Only a moderate number of mites were found.

I N S E C T S I N F E S T I N G H O U S E S A N D
P R E M I S E S

ARGENTINE ANT (Iridomyrmex humilis Mayr.)

Mississippi

M. R. Smith (July 29): An infestation of Argentine ants was recently found at Purvis, Miss., by R. C. Price, the writer and B. F. Collins. The infestation was found to cover approximately 7 blocks. It has been brought to the writer's attention by two close observers living at Laurel and Columbia that the abundance or scarcity of the English sparrow is a very accurate index to the abundance or scarcity of the Argentine ant. According to the observers, when the ants are abundant they attack the young sparrows first as they are hatching or else get on the sparrows and cause them to fall from the nest; the English sparrow thus furnishes an index to the Argentine ant situation. (August 15): Florence, Miss., was recently found by the writer to be infested with Argentine ants. The infestation covers practically the entire town and appears to be at least 12 or 15 years old. (August 18): The writer has recently learned of the presence of the Argentine ant at Belzoni. This makes an additional infestation record of Mississippi. Because of the prolonged drought we are having in the central and southern part of the State, the Argentine ant is giving much less trouble to the housekeepers than last year.

FIRE ANT (Solenopsis geminata Fab.)

Mississippi

M. R. Smith (August 16): A lady living at Bentonia told the writer that the fire ant has damaged a great number of her clothes by eating small holes in them. She stated that the ants seem to attack the spots where grease or foods had been spilled. Her description of the ant and its work is such that one can hardly doubt the veracity of the reports.

LARGE BLACK CARPENTER ANT (Camponotus herculeanus pennsylvanicus
DeGeer)

Mississippi

M. R. Smith (August 16): The large black carpenter ant is present in a large number of the maple trees along the sidewalk here. The ants are throwing out large untidy masses of woolly debris and grass and seem to be honeycombing the more decayed portions of the trees.

LITTLE BLACK ANT (Monomorium minimum Buck.)

Mississippi M. R. Smith (August 16): The tiny black ant is a very common pest in a number of the houses and stores at Bentonia.

POWDER POST BEETLES (Lyctus spp.)

Indiana C. R. Cleveland (August 19): Injury to flooring by these beetles was reported from one point early in August.

FLEAS (Siphonaptera)

Indiana C. R. Cleveland (August 19): Fleas have proven extremely troublesome in the past month at various points.

WHEEL BUG (Arilus cristatus L.)

Kansas H. W. McCulloch (August 18): This insect was very abundant in Kansas last year. The first report this year is from Bucklin, where specimens were taken on garden beans.

EUROPEAN EARWIG (Forficula auricularia L.)

Rhode Island A. E. Stene (August 22): The European earwig, of which Newport has one of the three known colonies in the United States, has been quite abundant in that section during the past season and indications are that it is spreading, although very slowly.

NOTES FROM THE FEDERAL HORTICULTURAL BOARD, SEPTEMBER 1, 1924.

INTERCEPTIONS

4. Conotrachelus aguacatae Barber was taken from soil around avocados from Mexico at Laredo, Texas, by Mr. A. A. Stalmach, April 9, 1924. This weevil was collected by Dr. W. M. Mann at Huascata, Jalisco, Mexico, in . According to him this is a very serious pest, - so serious that the avocado trees from which Dr. Mann took the types of this species had been chopped down when he visited the place a few months later.
5. Oranges with brown spots from Argentina were taken from ship's stores at New York City, July 25, 1924, by Mr. Ivan Shiller. Upon receipt in Washington, they were examined by Mr. J. A. Stevenson, pathologist, who reports that the oranges were infected with Argentina scab, apparently a type of scab not present in the United States.
6. In February of this year, Mr. John T. Rogers, Inspector in charge at Charleston, South Carolina, forwarded to Washington several small green frogs, taken from near Cooper River, Charleston, South Carolina. Other specimens of these frogs were sent in by Mr. Rogers under date of June 21, 1924. They were referred to the Smithsonian Institution of the National Museum and we are advised that they represent adults and young of the very rare species, Hyla andersonii, and that the National Museum has had, previous to these sendings, only two specimens of this animal although unavailing search had been made for it on many occasions. Mr. Rogers was congratulated upon this important interception.
7. A moth, just identified as Earias fabia, Stoll, was taken from cotton bolls from India at the Inspection House, Washington, D. C., May 13, 1924, by Mr. H. L. Sanford. This insect has become a cotton pest in India. If it were established in the United States, it might prove as serious a pest as the pink bollworm.
8. A larva of the West Indian sugar-cane root borer, Diaprepes abbreviatus, which does not occur in this country, was intercepted at San Francisco November 24, 1923, by Messrs. Chatterley and Fields in roots of Opuntia sp. The beetle emerged July 17, 1924. While this insect could only exist in tropical United States, it should be carefully guarded against as it is capable of causing serious injury to fruits, vegetables and other plants.
9. An earwig, (Anisolabis annulipes) was taken on Inhames from the Azores at Providence, R. I. July 8, 1924, by Mr. R. I. Smith. This insect is a serious pest in the Azores. It has not yet been introduced into the United States.

